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ABSTRACT

This paper discusses Virtual Enterprise (VE), a technology-driven business simulation program in which students conceive, create, and operate enterprises that utilize Web-based and other technologies to trade products and services around the world. The study examined the effects of VE on a learning community of at-risk students, defined as those who have been placed in immersion programs for English or mathematics. During the quantitative portion of the study, researchers examined 50 student activity log sheets. A random selection of at-risk students in various VE firms at Kingsborough Community College (KCC) (New York) was used for the sample. Results showed at-risk student participation was nearly double the required course participation. For the qualitative portion of the study, focus groups were conducted representing four different types of VE firms at KCC. Findings from this segment indicated that basic skills are needed in VE, but not all successful people are competent in English and math. The Center for Advanced Studies in Education (CASE), an independent research institute of the City University of New York is also discussed. Finally, results from a CASE study of the overall VE program at KCC are presented. (Contains 17 references.) (EMH)

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At Risk Students and Virtual Enterprise: Tourism and Hospitality Simulations in Applied and Academic Learning

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Abstract and Project Overview

Teaching methodologies are constantly being developed and refined to enhance student-learning outcomes. The efficacy of academic versus applied learning is a subject of intense debate and discussion. Many applied learning strategies, including simulations and case studies have been developed as components of learning-communities to improve student outcomes. Virtual Enterprise (VE) is a technology driven business simulation program in which students conceive, create and operate enterprises that utilize web-based and other technologies to trade products and services in a global, e-commerce network of more than 3,000 firms in thirty countries around the world This study examines the affect of VE on a learning community of at-risk students. This study defines at-risk students as those who have been placed in immersion programs for English or Mathematics, students whose first language is not English, and non-traditional students who have returned to college after a long absence. Some of these students may also be in danger of academic dismissal, and are given a second chance to continue their education. The study focuses on at-risk student attitudes toward English, Mathematics and Technology studies. This paper presents VE as a successful intervention that utilizes both academic and applied learning in a learning community that is a possible model for travel and tourism career education.

Quantitative Analysis: Project Design I

As part of the VE course, students are required to complete "Activity Log Sheets. These log sheets document all of the work that a student or "employee" does for his or her respective firm both in and out of actual class time. A typical, VE firm at KCC meets three hours per week for twelve weeks. Students complete a description of the activity, the time and date completed, the number of hours it took to complete the activity, and a competency reflected in the activity.

As part of the assessment process for VE as an Institute for CUNY as well as for research for this grant, an in-depth analysis of 50, student activity log sheets were examined. The sample for this grant was a random selection of at-risk students in various VE firms at KCC. The PI investigated how much time each at-risk student spent inside and outside the simulation. Inside activities include all activities required of the student in order to get a minimal passing grade. Outside activities include presentations, selling at trade shows, and all other work completed at home or away from the VE simulation. This was achieved by coding the information that is provided by all students on the activity log sheets. The relevant findings from the quantitative phase of data collection are the following:

1. The average time that VE students attended and participated in classes, labs, workshops, and events, far exceeded the required "contact" hours.

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2. The skills and competencies developed by the student could be identified as the core SCANS skills and competencies and their subsets.
3. At-risk student participation in classes, labs, workshops, chat-rooms, and meetings ranged from a low of 43.5 hours to a high of 92.5 hours. The average participation of the 50 respondents was 69.15 hours. VE is a 3-credit course with 36 required contact hours. At-risk student participation was nearly double the required course participation.

The invested at risk student hours over the critical six SCANS skills and competencies was distributed as follows: Interpersonal skills- 11.8 hours, Information-12.59 hours, Resources-9.96 hours, Technological skills- 13.92 hours, Basic Business skills- 9.75 hours, Personal growth- 10.13 hours. This relatively even distribution suggests the development of both hard and soft skills consistent with the SCAN skills and competencies.

Qualitative Analysis: Project Design II

The use of focus groups have traditionally been used in marketing programs, specifically with regard to consumer buyer behavior, but have recently come into favor as a research methodology in the academic world. The focus group assembled by the PI, was representative of the entire at-risk student cohort and asked questions concerning their experiences in the VE program.

The focus group represented four different VE firms from KCC. Those firms are: City Lights Hotel, Excel Media, Kingsborough Enterprises, and Millennium Airlines. These firms are, respectively, in the following business areas: hotel accommodations, technology and publications, meeting and trade show planning and airline reservations.

The at-risk students who participated in this study were described by their firm names. Therefore the students will hereby be named; City, Excel, KE, and Millennium.

1. City is a female, Asian-American who is an at-risk student due to her developmental English designation. Her first language is Mandarin/Chinese. City is also an older student who returned to school after a long absence. She has already graduated from KCC.
2. Excel is a female, Caribbean exchange student whose first language is not English. She was also in developmental English and Mathematics courses.
3. KE is also a female, Caribbean exchange student whose first language is not English. She was in developmental English.
4. Millennium is a male, Polish-American whose first language is Polish. He was in developmental English and Mathematics courses. He was in danger of academic dismissal before taking the VE course. He has since graduated from KCC.

The relevant finds from the qualitative focus groups are as follows:

1. All participants agreed that basic skills and competencies in English, Mathematics and technology (SCANS skills for the purpose of this grant) are needed, but not all successful people are competent in English and Math. They also agreed that English and Mathematics were needed for communication within the individual firm, and selling and buying to and from other firms.

2. All participants agreed that the student is responsible for his or her own learning. All other people, the professor and other students are supplementary for additional input and learning. Specific references to the professors referred to them as guides and assistants.
3. All students agreed that VE was not a game. That it was important to their learning and development.
4. City and Millennium agreed that English and Mathematics within the VE context helped them to learn faster, and use words that they had never heard of previously. City and KE felt that they learned more than one thing at the same time. Also, all members agreed that English in the context of doing business was necessary to act professionally as opposed to using slang in a social environment.
5. Not all students thought that Mathematics was addressed to their liking. Excel related that Mathematics was not addressed unless one had the position of accounting manager. This was not the consensus as all other group members felt that they learned Mathematics by having to perform various functions such as applying taxes to sales that they made as well as keeping track of their finances to make their required transactions.
6. City and Millennium agreed that VE aided in their other academic subjects as well. They both felt that the skills they learned in VE helped them pass their developmental English courses.
7. All students agreed that VE provided them with opportunities to practice reading, writing and communication skills. City and KE felt that they had to read more than others in order to communicate better and more professionally. City, KE and Millennium felt that reading and writing were necessary in order to communicate within their own organizations. Lastly, Excel related that reading, writing and communication was important from a marketing standpoint. She felt that in order to have an effective web site, it was imperative that it was easy to read, the message was clear and the communication with the customers could be two-way.
8. All students overwhelmingly agreed that VE taught them necessary technology skills. KE related to the on-line banking program, Millennium related to the Microsoft Office skills he or she gained, and City and Excel pointed to the technology skills as making them "job ready".
9. All students agreed that their attitudes changed in one aspect or another. Millennium felt that VE helped him in his developmental English class. City felt VE aided her in her developmental classes as well. City also related that VE taught her that English was important because it makes one look professional. Lastly, KE thought that she learned more English than Mathematics in VE and that her research skills improved as a result of the VE class.

Center for Advanced Studies in Education (CASE) Assessment

In the academic year 2000/2001the Center for Advanced Studies in Education (CASE), an independent research institute of CUNY, embarked on an assessment of the Virtual Enterprise at Kingsborough Community College as a viable method of instruction which could possibly lead to KCC's designation as an Institute for Virtual Enterprise for the City University of New York (CUNY). The CASE study was an in-depth study of the overall VE program at KCC, especially with regard to student and faculty outcomes. Although the CASE study did not focus specifically on at-risk students partaking in the VE program, the results from the CASE study does show some supporting information

with regard to this study. Some outcomes produced by the CASE study that have relevance to this study are as follows:

1. At Kingsborough, over 85% of all students are in need of some type of developmental education/remediation. However, in the VE group that was studied by CASE (which included 50% of at-risk students), 53% met or exceeded the standard, set by CUNY, for written English. While 58% have a superior knowledge of business.
2. All students studied had improved written and verbal communication skills.
3. All students studied possessed the ability to edit and revise written work.
4. Technology skills were advanced in software, email, CUNY on-line, and the VE banking program.
5. Mathematic skills were improved for all students from utilizing the VE banking program.
6. All accounting employees had above average Mathematical skills, and were able to comprise numerous business reports such as; accounting spreadsheets, profit and loss statements and break-even analysis.

These findings provide some interesting correlation to the data developed in this study and suggest further areas of inquiry for future studies. As previously noted, the CASE study focused on outcomes as perceived, developed and implemented by teaching faculty in the VE program. The natural compliment to this type of inquiry is research from the students' perspective, of which this study is a pioneering effort.

Summary and Conclusions

The data collected from the quantitative and qualitative research components of this research indicates that Virtual Enterprise does enhance the learning attitudes of all students that participate in the program. The average student leaves the program with improved English, Mathematics and Technology skills. Students are genuinely interested in learning in the VE program because they see the relevance of English, Mathematics and Technology in the "real world." These findings are supported in the CASE assessment of the VE program as well as in the data obtained from this independent research.

The findings from the quantitative and qualitative studies indicate that students spend more time achieving their goals in the VE simulation. The activity logs show that students do, in fact, spend more time in the simulation. However, the activity logs do not show whether the students are taking more time to complete their tasks because they are interested in the coursework or whether it just takes them a little longer to complete tasks.

The focus group utilized for this grant shows that students' attitudes are improved when they partake in the VE program assignments. They feel that they have become part of a business and they can see the need of certain skills that they will need in order to be successful in the "real world." These at-risk students felt that VE also helped them in other academic subjects and fostered a positive attitude for them to pass their developmental English and Mathematics courses.

This study provides a useful model for future research in combining qualitative and quantitative components to study the at-risk student. While this study provides an initial overview, since VE is a useful student intervention, more detailed study and analysis should be undertaken to determine specific strategies and outcomes that will benefit the at-risk student.

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